

Remarks/Arguments

Claims 1-3, 6-12, 14-22, and 24-34 are in the application. Claims 1, 19, 21 and 25 are in independent form. Claims 6-8 are withdrawn as directed to a non-elected invention.

Examiner Interview Summary

Applicant thanks the Examiner for courtesies rendered during the August 3, 2005 telephone interview. Examiner Christopher M. Verdier, applicant Heribert Vogel, and applicant's representative Michael Scheinberg participated. No exhibits or demonstrations were shown or conducted. Two proposed amendments to claim 1 were discussed. Applicants argued that the first proposed amendment excluded a servo motor and therefore differentiated over the GB2149372. Applicants also argued that a second proposed amendment in which the driving of the at least one coil is synchronized with the speed of rotation differentiated over GB2149372. Agreement was not reached on acceptable claim language.

Drawing

The drawings are amended to renumber the figures and to provide a separate figure number for each drawing. The reference numbers on FIGS. 3A and 6A are changed to be consistent between the drawings and with the specification, and reference indicators that are not mentioned in the description are removed from the drawings.

Specification

The Abstract is amended to delete uses of the word "invention" and "said" as requested.

The references to "claim 1" in page 3, line 13, is deleted, as well as the references to dependent claims.

Page 12, line 6, is amended for clarity.

Applicant submits replacement sections for the "Drawings" and "Description of the Exemplary Embodiments" with description that corresponds to the new numbers of the figures.

No new matter is added.

Examiner's suggested claim language

Claim 5 is cancelled. Applicant has incorporated the Examiner's suggest claim language into claims 15 and 16.

Claim objections

The suggested amendments have been made to each of the claims to overcome the objections.

Claim rejections 35 USC 112

Each of the occurrences of the term "in particular" in claims 1, 18, 19, and 24 has been deleted. Claims 4 and 23 are cancelled.

Allowable subject matter

Claims 11, 14-16, and 19-21 would be allowable if rewritten to overcome the rejections under 35 USC 112 and to include all the limitations of the base claim and any intervening claims.

Claims 19-21 are rewritten so as to not depend from any rejected base claim and to include all the limitations of the base claims and any intervening claims.

Applicants submit that claims 11 and 14-16 are patentable for reasons described below with respect to their amended parent claims.

Rejections under 35 USC 103(a)

Claims 1-5, 9, 10, 12, 13, 17, 18, 22, and 24 stand rejected under 35 USC 103(a) for obviousness over WO85/02379 in view of GB 2,149,372. GB 2,149,372 teaches the use of an electric servo motor to adjust the angle of incidence of a helicopter blade. As describe with respect to FIG. 2, energizing electric motors 131a and 131b causes angular displacement of shafts 125a and 125b which are connected to pivot linkages 127a and 127b and pivot rotor blades 119a and 199b, thereby changing its angle of incidence. Page 3, lines 87-107. The control of the angular blade pitch is by means of servos. Page 4, lines 6-9. In another embodiment, bevel gears could transfer the rotary motion of the electric motor to the rotor. Page 4, lines 29-32.

Amended claim 1 recites "without using a servo motor." This limitation is supported in the specification on page 3, lines 26-29. As described in the specification, the elimination of the servo motor results in lower production cost and reduced weight. Page 3, lines 26-29.

During the Examiner interview, the definition of servo motor was discussed. A technical definition of servo motor can be found in NASA's on-line Dictionary Of Technical Terms For Aerospace Use, at <http://roland.lerc.nasa.gov/~dglover/dictionary/content.html>

servo

1. = servomechanism.
2. Pertaining to or incorporating a servomechanism.

servomechanism

A control system incorporating feedback in which one or more of the system signals represent mechanical motion.

The Court of Appeals of the Federal Circuit recently notes that technical dictionaries are especially useful in determining the meaning of claim terms.

“We have especially noted the help that technical dictionaries may provide to a court “to better understand the underlying technology” and the way in which one of skill in the art might use the claim terms. Vitronics, 90 F.3d at 03-1269, -1286 19 1584 n.6. Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention.”

Phillips v. AWH Corporation, Dkt No. 03-1269, -1286, Slip op. at 18-19 (Fed. Cir, 2005)
<http://fedcir.gov/opinions/03-1269.pdf>

During the Examiner interview, it was discussed whether the definition of the term “servo motor” required feedback. Applicant submits that the term as understood in the field of aircraft and as used by applicant includes feedback and therefore amended claim 1 differentiates over UK 2,149,372

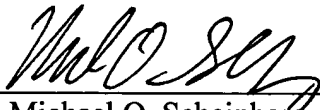
New claim 25 also differentiates over GB 2,149,372, which teaches using an electric motor to vary the angle of incidence and does not teach “an angle of incidence adjustable by a torsion force “generated by a magnetic field which is varied by electrically driving at least one coil using a periodic signal, the signal varying within a period equal to the period of rotation of the at least one rotor blade about the main rotor shaft.”

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Applicant submits that the claims are patentable and respectfully request that the application be allowed.

Respectfully submitted,

9/9/05
Date

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FIG. 1A

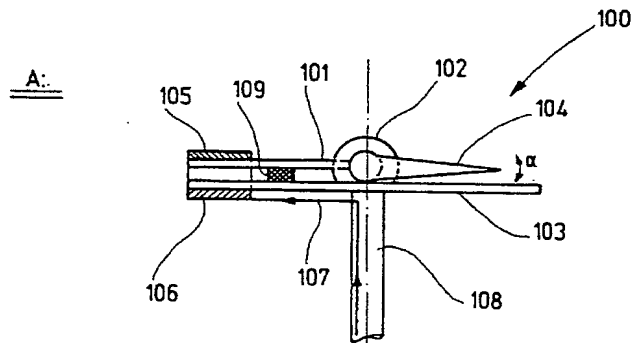
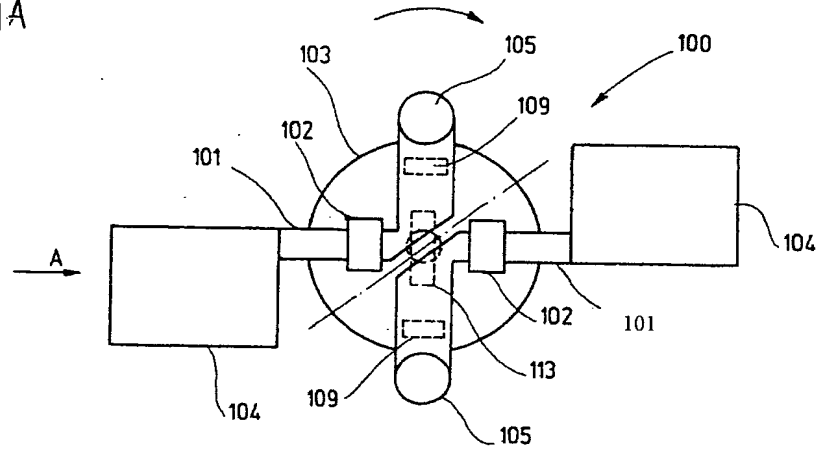
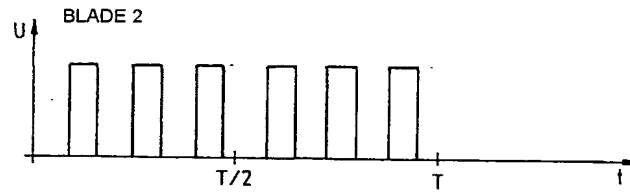
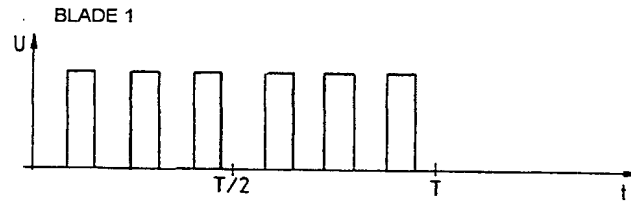


FIG. 1B

~~Fig. 1a~~

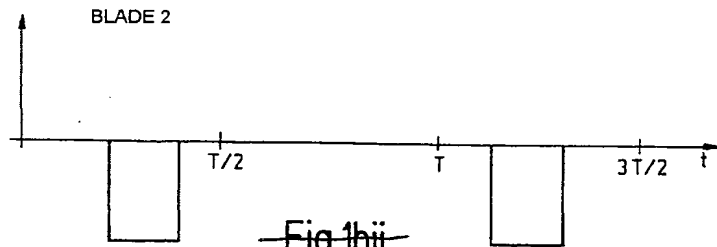
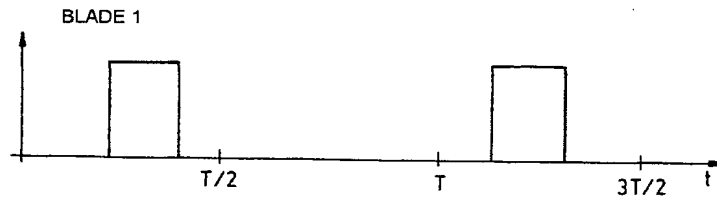
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COLLECTIVE BLADE PITCH:



~~Fig. 1bi~~ FIG. 2A

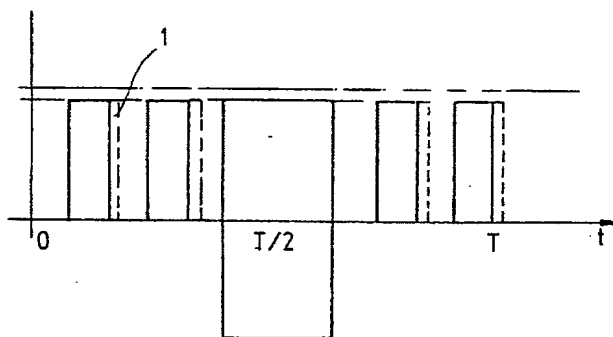
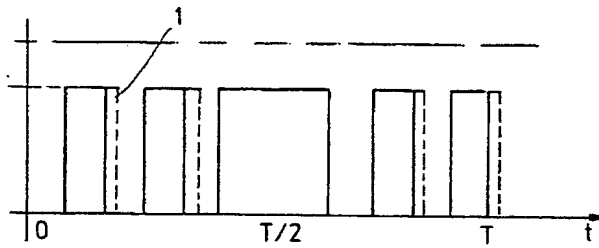
AIRCRAFT PITCH/ROLL:



~~Fig. 1bii~~

FIG. 2B

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~~Fig. 1biii~~

Fig. 2C

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Fig. 3A

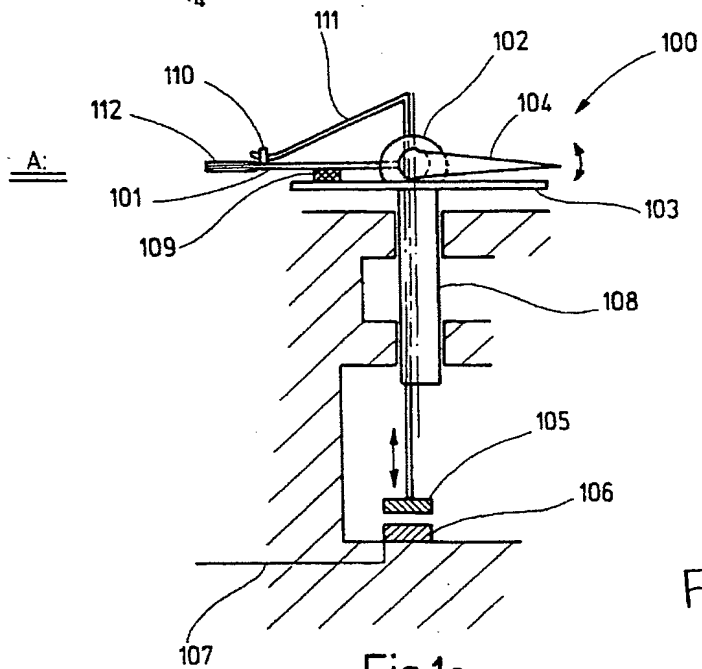
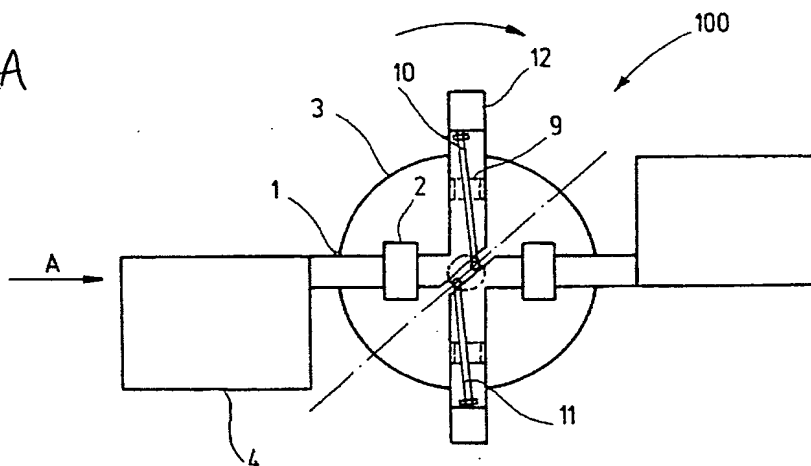
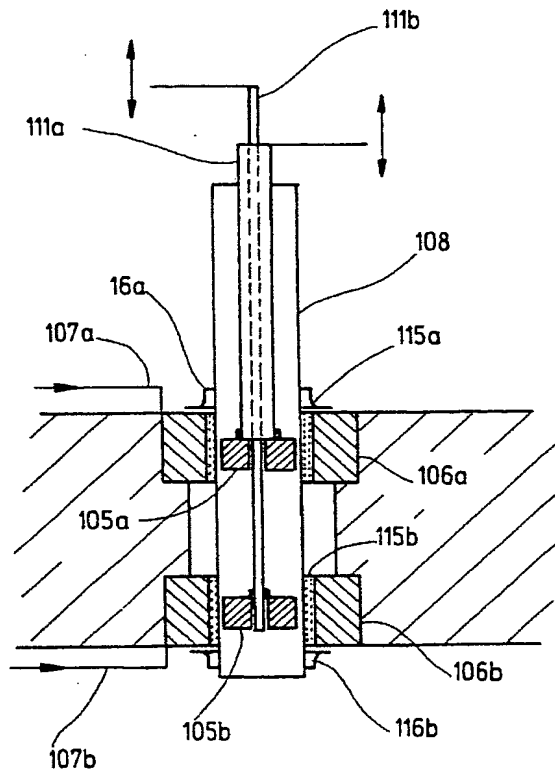


Fig. 3B

Fig. 1c

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~~Fig.1d~~
FIG. 4

Fig. 5A

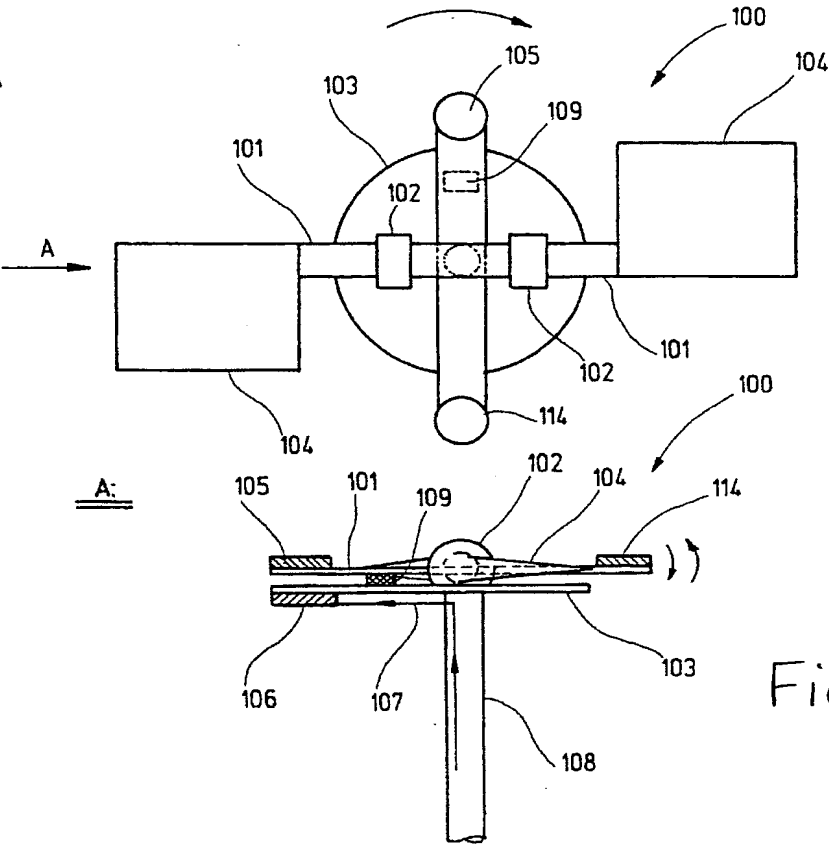


Fig. 5B

~~Fig. 1e~~

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FIG. 6A

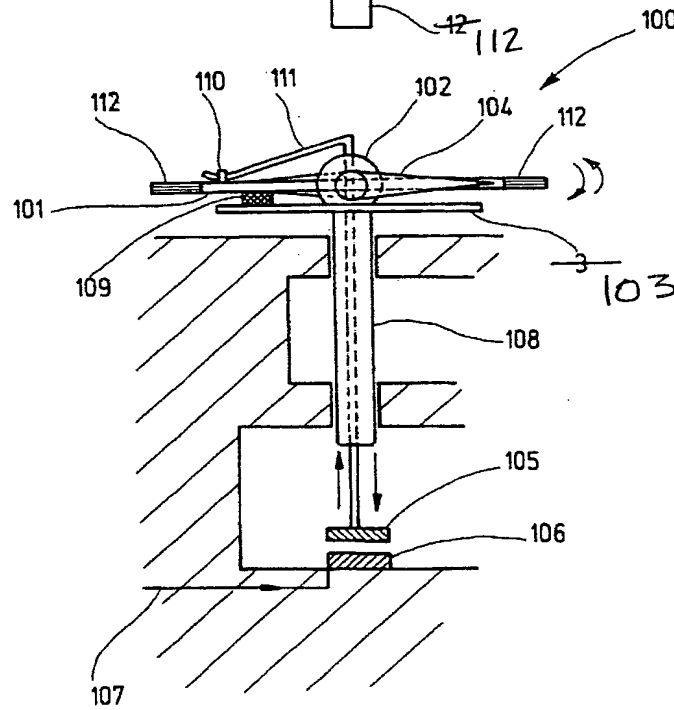
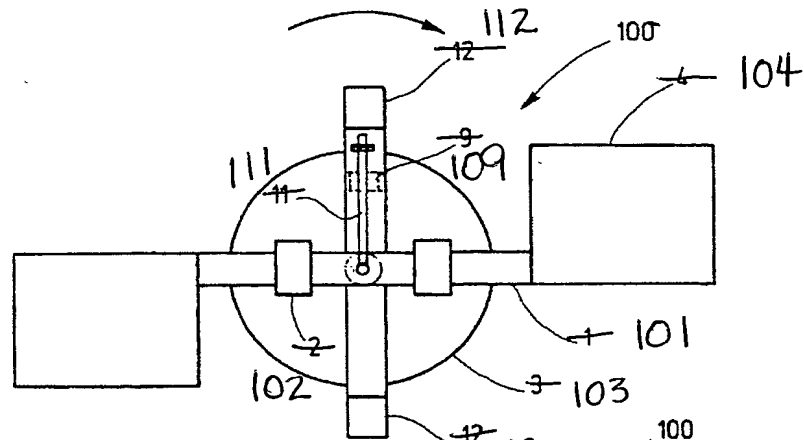


Fig. 1f

FIG. 6B